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DIRECT TESTIMONY

OF

JAMES M. LANDRETH

ON BEHALF OF

SOUTH CAROLINA ELECTRIC & GAS COMPANY

DOCKET NO. 2003-002-E

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH SOUTH CAROLINA ELECTRIC & GAS COMPANY (SCE&G).

A. James M. Landreth, 111 Research Drive, Columbia, South Carolina. I am employed by South Carolina Electric & Gas Company as Vice President of Fossil and Hydro Generation.

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR BUSINESS EXPERIENCE.

A. I have a Bachelor of Science Degree in Textile Technology from North Carolina State University in Raleigh, North Carolina and a MBA Degree from James Madison University in Harrisonburg, Virginia. South Carolina Electric & Gas Company employed me in February, 2000 as Manager of New Business Development for Fossil and Hydro Operations. In May of 2001, I assumed the position as Vice President of Fossil and Hydro Operations. In this position, I report directly to the President of South Carolina Electric & Gas Company.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to review the operating performance of South Carolina Electric & Gas Company's fossil units and GENCO's Williams Station during the period March 1, 2002, through February 28, 2003. Also, I will describe the

1 procurement and delivery activities for fossil fuel used in electric generation for
2 SCE&G and GENCO.

3 **Q. PLEASE GIVE A SHORT DESCRIPTION OF SCE&G'S FOSSIL AND HYDRO**
4 **ELECTRIC FACILITIES.**

5 A. SCE&G owns and/or operates eighteen (18) fossil fuel (coal and gas) generating plants
6 and six (6) hydroelectric generating plants. The total net summer generating capability
7 rating of these facilities is 4,222 megawatts.

8 **Q. PLEASE EXPLAIN TO THE COMMISSION SOUTH CAROLINA**
9 **GENERATING COMPANY ("GENCO") AND ITS RELATIONSHIP TO**
10 **SCE&G.**

11 A. South Carolina Generating Company, Inc., ("GENCO") was incorporated October 1,
12 1984. GENCO owns the Williams Electric Generating Station. GENCO sells to
13 SCE&G the entire capacity and output from the Williams Station under a Unit Power
14 Sales Agreement approved by the Federal Energy Regulatory Commission. Hereafter
15 when I refer to SCE&G's fossil steam plants I include GENCO.

16 **Q. HOW MUCH ELECTRICITY WAS GENERATED BY SCE&G IN THE**
17 **TWELVE MONTH REVIEW PERIOD?**

18 A. In the review period, SCE&G generated 22,628,500 megawatt hours of energy. Of this
19 energy, our fossil steam plants generated 73%, gas peaking turbines and hydro facilities
20 generated 5 %, and our nuclear plant generated 22%.

21 **Q. PLEASE SUMMARIZE THE PERFORMANCE OF THE FOSSIL UNITS.**

22 A. Overall, SCE&G's fossil units have operated efficiently and dependably in the twelve-
23 month period of March 1, 2002 through February 28, 2003.

24 Our fossil units have operated better than the North American Electric Reliability
25 Council ("NERC") national 5 year (1997-2001) average for forced outage rates and
26 with reasonable heat rates. These measures will be covered later in my testimony.

1 **Q. PLEASE DISCUSS SCE&G'S PLANNED OUTAGES FOR THE PERIOD UNDER**
2 **REVIEW.**

3 A. Outages were scheduled and completed at McMeekin #1 and 2, Urquhart #1 and 2, and
4 Wateree #1 and 2. The McMeekin outages were scheduled to convert their ash
5 handling systems to a dry ash collection system. On June 1, 2002, Urquhart Units #1
6 and 2 returned to service as part of the combined cycle repowering project installation
7 of Urquhart ICT #5 and 6. Later in the fall of 2002, maintenance was performed on the
8 generators on Urquhart #1 and 2. The extended outages on Wateree #1 and 2 were of
9 one month duration for the tie in of the new baghouses, which replaced the old
10 electrostatic precipitators. These electrostatic precipitators had to be removed to (1)
11 allow space for the future selective catalytic reactors (SCRs), which are being installed
12 in 2003 to comply with the NOx SIP Call regulations, and (2) reduce the particulate
13 matter emissions from the plant.

14 **Q. WHAT HAS BEEN SCE&G'S SYSTEM FORCED OUTAGE RATE FOR THE**
15 **PERIOD UNDER REVIEW?**

16 A. SCE&G experienced a system forced outage rate of 3.71% in the review period.
17 "Forced outage rate" is the percentage of the total hours that generating units are forced
18 out of service (for various reasons) compared with the total hours in service for a
19 period. The North American Electric Reliability Council ("NERC") national 5 year
20 (1997-2001) average for forced outage rate for similarly sized units is 4.66 %.
21 SCE&G's fossil units completed this review period with only one major mechanical
22 problem, which occurred at our Canadys #3 unit. The boiler on this unit experienced a
23 thermal excursion on a startup in September 2002, which forced the unit off line. After
24 extensive inspections, management decided to replace some major internal components
25 in the boiler, and the unit is expected to return to service in April 2003.

1 **Q. PLEASE DISCUSS THE AVAILABILITY OF SCE&G'S FOSSIL PLANTS**
2 **DURING THE REVIEW PERIOD.**

3 A. SCE&G had an availability of its fossil plants of 79.85% for the review period.
4 Availability is a measure of the actual hours that the generation units are available
5 (overall readiness to provide electricity) divided by the total hours in the 12-month
6 review period. Availability is not affected by how the unit is dispatched or by the
7 demand from the system when connected to the grid. However, it is impacted by the
8 planned and maintenance shutdown hours. The North American Electric Reliability
9 Council ("NERC") national 5 year (1997-2001) average for availability from similar
10 sized pulverized coal fired units was 86.95%. SCE&G's availability was lower than the
11 NERC national 5 year average due to the timing and duration of the normal planned and
12 maintenance shutdown hours associated with equipment maintenance outages and the
13 preparation for the new combined cycle units at Urquhart Station and environmental
14 compliance investments. However, during the peak period, June 1, 2002 thru
15 September 30, 2002, SCE&G operated at an availability of 92.2%.

16 **Q. WHAT HAS BEEN THE HEAT RATE OF THE FOSSIL UNITS DURING THE**
17 **REVIEW PERIOD?**

18 A. Heat rate is a way to measure thermal efficiency of a power plant fuel cycle. It is the
19 number of BTU's of fuel required to generate one (1) kilowatt-hour of electricity.
20 The combined steam units heat rate for the period March 1, 2002 through February 28,
21 2003 is 9601 Btu/kWh. Cope Station had the best heat rate in our system at 9308
22 Btu/kWh followed by McMeekin Station at 9354 Btu/kWh. In the November 2002
23 issue of *Electric Light & Power*, SCE&G was recognized as the only utility in the
24 nation to have three of its plants listed in the top 20 most energy efficient coal fired
25 plants in the nation for 2001. McMeekin Station ranked 8th with a net heat rate of 9369
26 Btu/kWh, Cope Station ranked 12th at 9468 Btu/kWh and Wateree Station ranked 18th at

1 9542 Btu/kWh. In that same issue, Cope was listed as the 9th best in the nation in the
2 list of the top 20 cleanest coal-fired power plants ranked by SO2 emission rates.

3 **Q. IN OPERATING ITS FOSSIL AND HYDRO PLANTS, HAS SCE&G TAKEN**
4 **ALL REASONABLE STEPS TO MINIMIZE THE FUEL COST TO**
5 **CUSTOMERS?**

6 A. Yes. SCE&G has operated these plants as efficiently and reliably as reasonably
7 possible. By doing so, we have held our customers' costs, including fuel costs, to a
8 minimum. In the case of natural gas costs, we believe we have managed our
9 requirements well with our supplier.

10 **Q. PLEASE SUMMARIZE SOUTH CAROLINA ELECTRIC & GAS COMPANY'S**
11 **(SCE&G) FUEL PROCUREMENT NEEDS AND PURCHASING PRACTICES.**

12 A. SCE&G purchases for its fossil plants all necessary fuels to include coal, fuel oil and
13 contracts for the purchase of natural gas with the objective of securing reliable supplies
14 of the required quality and quantity at reasonable prices.

15 **Q. HOW DOES THE COMPANY SECURE THE NECESSARY QUANTITIES OF**
16 **COAL AND OIL AT COMPETITIVE PRICES?**

17 A. SCE&G maintains an active list of qualified suppliers of coal and fuel oil used to power
18 our plants. As contracts expire, or as needs are identified, solicitations are mailed out
19 for competitive sealed bids.

20 **Q. HOW DOES SCE&G APPROACH THE MARKET PLACE TO MAINTAIN**
21 **SUPPLY RELIABILITY AND AT THE SAME TIME LEVERAGE**
22 **PURCHASING POWER TO NEGOTIATE THE BEST PRICES IN BOTH COAL**
23 **AND FUEL OIL?**

24 A. Coal is procured with long-term (up to three years) and spot purchases (up to one year)
25 contracts to achieve a balance of reliable supplies and flexibility to react to market
26 changes or short-term system needs. Long-term contracts for the period under review

1 represent approximately 85 percent of projected system demand. We include in our
2 contracts some flexibility to increase or decrease deliveries with no contract penalties.
3 This provides a mechanism to manage our coal inventories and react to short-term
4 changes in the marketplace. By planning to purchase some coal in spot markets,
5 SCE&G is able to take advantage of favorable spot market purchase prices. Moreover,
6 it enables us to respond to operating conditions in the management of our coal
7 inventory.

8 Fuel oil contracts are renegotiated biannually. In 2002, SCE&G's dependence on fuel
9 oil as a primary back up fuel source increased substantially with the Urquhart Plant
10 Repowering achieving commercial status. A decision was taken to change from a single
11 source supplier to multiple suppliers to better serve the much higher system needs
12 created with the Urquhart Plant and in preparation for the Jasper Plant. The system was
13 geographically divided and two supply contracts were executed accordingly. This has
14 worked well as both suppliers have overlapping delivery capabilities.

15 **Q. HOW DOES SCE&G ASSURE THE RIGHT QUANTITY OF FUEL SUPPLIES**
16 **TO MEET SEASONAL DEMANDS?**

17 A. SCE&G uses several methods to bring the fuel supply and demand factors together.
18 First, seasonal burn levels are calculated and forecasted for each of the generating
19 plants throughout the upcoming year. Second, coal and fuel oil inventories are
20 validated and contract quantities are added together to arrive at the system needs going
21 forward. With this information, procurement looks at the coal requirements and the
22 economics of exercising the variable quantity portions of long-term contracts or the
23 possibility of going to the spot market to purchase any additional coal requirements at
24 cheaper pricing. Throughout the years, SCE&G has been successful in leveraging long-
25 term and short-term coal purchases to achieve reasonably low purchase prices while
26 assuring the reliability of coal supplies necessary to support system needs.

1 Fuel oil inventories are purchased to ensure adequate back up to natural gas for
2 SCE&G's intermediate and peaking generators. Contracts are awarded on a biannual
3 basis using competitive bids. Typically, fuel storage tanks are filled going into peak
4 usage periods and allowed to be reduced to lower levels throughout the shoulder months
5 to protect fuel quality.

6 **Q. HOW DOES THE COMPANY MANAGE COAL INVENTORIES TO INSURE**
7 **RELIABILITY AND AVAILABILITY?**

8 A. The Company strives to maintain two months coal inventories to support anticipated
9 consumption. This inventory level provides adequate coverage to best protect SCE&G
10 against availability, production and delivery problems that may arise from time to time.
11 It also affords the resources to meet our supply needs when short-term market prices are
12 unfavorable. Naturally, it is always important to balance short-term decisions against
13 long-term requirements and future operating conditions.

14 **Q. HOW DOES THE COMPANY DETERMINE THE "REASONABLE PRICE"**
15 **FOR FUEL PURCHASES?**

16 A. Fuel procurement must look for an optimization between adequate supplies of
17 acceptable quality at reasonable purchase prices with the ultimate value of the delivered
18 fuel (coal or oil) determined by the actual measured heat rate efficiency in the operation
19 of our generating plants. The supplier determines the product value on the basis of
20 production cost, transportation and the use of relative index comparisons to other fuels
21 in the energy industry. Markets experience pricing fluctuation and volatility caused by
22 seasonality, political turmoil and national weather trends. SCE&G strives to use a
23 variety of pricing mechanisms among coal contracts to mitigate or normalize the effects
24 on prices created by changes in market conditions and indices by staying close to
25 market, balancing adequate inventories against long-term contract supplies, spot market
26 purchases and variable quantity exercise limits.

1 In addition to strategically managing our current assets, SCE&G participates in various
2 trade organizations and subscribes to a number of industry specific publications, both
3 private and government sources. These information sources are essential to staying
4 current with developing trends, systemic changes taking places in the industry and
5 providing key marketing information. The combined information flow is integral in our
6 ongoing analysis of current or prospective coal costs and market comparability.

7 **Q. SUMMARIZE THE QUANTITY, QUALITY, AND TERM OF THE**
8 **COMPANY'S COAL CONTRACTS.**

9 A. During the period March, 2002 through February, 2003, the Company purchased
10 approximately 4.8 million tons of coal under long term and short term contracts, which
11 represented approximately 84.8% of the requirement for the Company's five coal-fired
12 stations, GENCO's Williams Station and Savannah River Site. For the March, 2003
13 through February, 2004 period, the Company projects to have under long term contract
14 with 7 suppliers 4.7 million tons of coal with contract tonnage representing
15 approximately 76% of the total receipts. The quality ranges are from 12,000 to 12,800
16 BTU with a sulfur content of from 0.75% to 1.6%. Most of these contracts are for a
17 period of three (3) years with options to renew or extend for as long as six (6) additional
18 years. The amount of coal under contract will vary from year to year. In some of our
19 coal contracts, we have been successful in negotiating fixed pricing whereby the price is
20 not changed for a fixed period of time, usually for the full term of the contract. In other
21 coal contracts, price adjustments are negotiated for predetermined adjustment amounts.

22 **Q. WHAT PRICES HAS THE COMPANY PAID TO COAL PRODUCERS FROM**
23 **MARCH 2002 THROUGH FEBRUARY 2003?**

24 A. Exhibit No. _____ (JML-1) entitled, "Coal Purchased For Steam Plants", shows
25 the average cost per MBTU of coal purchased in March, 2002 through February, 2003.
26 Based on the long term and short term contracts and the purchases of spot coal during

1 that period, we have seen the producer cost of coal vary in price from a weighted
2 average high of \$1.2487 per MBTU (\$31.55 per ton) in February, 2003 to a weighted
3 average low of \$1.1454 per MBTU (\$28.86 per ton) in May 2002.

4 **Q. WHAT HAS BEEN THE RECENT PRICING TREND IN THE NO.2 FUEL OIL**
5 **INDUSTRY?**

6 A. Fuel oil prices were stable in 2002. Because natural gas prices remained relatively
7 stable, fuel oil was not a primary fuel used in generation. The industry has seen a sharp
8 rise in demand in early 2003, which in turn has caused the prices to rise rather
9 dramatically. During the review period, delivered prices have varied from a weekly low
10 of \$0.5612/gallon in March 2002, to a weekly high of \$1.1583/gallon in February 2003.
11 Exhibit No. _____(JML-2) shows the average system delivered #2 fuel oil prices for
12 March, 2002 through February, 2003.

13 **Q. WHAT HAS BEEN THE MAJOR FACTORS THAT HAVE INFLUENCED**
14 **COAL AND FUEL OIL MARKET CONDITIONS AND THE IMPACT ON**
15 **RECENT PRICING TRENDS?**

16 A. Several factors which have impacted market conditions are as follows: (1) Strict new
17 environmental laws have delayed or slowed new mine permits, (2) Major coal producers
18 have filed Chapter 11, (3) Reduced production levels by many major producers, (4)
19 Consolidations and acquisitions by publicly traded companies with obligation to meet
20 shareholders' expectations, (5) Weather, (6) The economy and (7) Political unrest in the
21 Mideast and South America.

22 Overall, coal and oil prices were fairly stable in 2002. Because of unseasonably mild
23 weather, utility inventories were relatively high, which decreased supplier demands.
24 The industry has seen a demand increase in early 2003 due to weather, dwindling
25 stockpiles, fundamental supplier realignments and the resulting smaller stockpiles at
26 utility plants. Price increases, particularly in fuel oil, have been noted in 2003

1 coinciding with the rise in demand created by the cold weather experienced this winter
2 and petroleum supply issues in South America and the Mideast.

3 **Q. HOW HAS THE GENERAL AVAILABILITY OF COAL BEEN AFFECTED?**

4 A. Because of mild weather and slow economy, demand for coal decreased in 2002. In
5 2003, the industry has seen rapidly reduced inventory levels, increased demand and
6 decreased availability. Many large coal producers reduced production in 2002 and have
7 not yet increased production to meet the greater demand in 2003.

8 **Q. HOW HAVE FREIGHT COSTS VARIED FROM MARCH 2002 THROUGH**
9 **FEBRUARY 2003?**

10 A. My Exhibit No. _____ (JML-1) shows the average freight costs per MBTU for
11 coal purchased for each month. During that period, the freight costs varied from a
12 weighted average high of \$0.4783 per MBTU (\$12.06 per ton) in October, 2002 to a
13 weighted average low of \$0.3945 per MBTU (\$9.97 per ton) in February, 2003.

14 **Q. HOW HAVE DELIVERED COSTS FOR COAL TO INCLUDE FREIGHT**
15 **VARIED FROM MARCH 2002 THROUGH FEBRUARY 2003?**

16 A. Exhibit No. _____ (JML-1) shows the average delivered cost per MBTU of coal
17 purchased in March, 2002 through February, 2003. During that period, we have seen
18 the delivered cost of coal vary in price from a weighted average high of \$1.6555 per
19 MBTU (\$41.74 per ton) in July, 2002 to a weighted average low of \$1.6026 per MBTU
20 (\$40.55 per ton) in the month of June, 2002.

21 **Q. WHAT CONTRACT FREIGHT RATE CHANGES HAS THE COMPANY**
22 **EXPERIENCED?**

23 A. There have been no contract freight rate changes during this review period.

24 **Q. HOW DOES THE COMPANY CONTROL FREIGHT CHARGES?**

25 A. We are continually communicating with our freight carriers regarding innovative ways
26 by which we can moderate not only present but also future freight costs for the

1 movement of coal to our Company. The Company is addressing various issues with
2 CSX Transportation, Inc. (CSX) and the Norfolk Southern Corporation (NS) to include
3 increased freight rate discounts, minimized future freight rate adjustments, and
4 increased incentives for additional tonnages moved.

5 **Q. ARE THERE ANY OTHER THINGS THE COMPANY HAS DONE TO**
6 **MITIGATE FUEL RELATED EXPENSES THAT WILL IMPACT FUEL**
7 **COSTS?**

8 A. Effective January 1, 2000, Phase II of the Clean Air Act of 1990 called for electric
9 utilities to reduce sulfur dioxide (SO2) emissions. A SO2 Emission Allowance Trading
10 Market was established by the Environmental Protection Agency (EPA) to assist
11 utilities in managing the costs of complying with these new regulations. The Company
12 has purchased SO2 allowances as part of our overall strategy to compensate for our SO2
13 emissions.

14 **Q. HOW IS NATURAL GAS PROCURED FOR THE COMBUSTION TURBINES?**

15 A. SCE&G has a contract with South Carolina Pipeline Corporation (SCPC) to procure
16 natural gas for combustion turbine generators in accordance with SCPC's standard
17 interruptible contract.

18 **Q. WHAT FUEL ARRANGEMENTS HAVE BEEN MADE FOR SCE&G'S**
19 **URQUHART GENERATING STATION?**

20 A. SCE&G has contracted with SCPC for up to 50,000 DTH of firm natural gas per day.
21 For gas requirements above this amount there is a standard interruptible contract with
22 SCPC such as those utilized for our simple-cycle peaking units. In either case,
23 purchases are directed by SCE&G. We also have the ability to use #2 fuel oil.
24 Maintaining capacity to use alternate fuels at Urquhart provides SCE&G the ability to
25 conduct daily analysis of gas and oil prices to ensure system reliability. Mr. Klein
26 discusses this subject in detail.

1 **Q. HAS SCE&G MADE EVERY REASONABLE EFFORT TO MINIMIZE ITS**
2 **FUEL PROCUREMENT COSTS?**

3 A. Yes. As outlined above, we have made every reasonable effort to obtain reliable, high
4 quality suppliers of fuel and transportation at the lowest possible cost to our customers.

5 **Q. DO YOU HAVE ANY CONCLUDING REMARKS?**

6 A. We are fortunate that we have had a low forced outage rate, high availability during the
7 peak months, and a very low heat rate during this period. Such favorable results will
8 not always be possible. Even with every reasonable effort by the Company to prevent
9 them, equipment problems and human error may cause outages and availability
10 problems from time to time, and simply are an expected part of utility operations. In
11 addition, environmental compliance mandates have and will continue to drive our heat
12 rates higher. An example of this, are requirements to reduce nitrous oxide (NOx) air
13 emissions. Low NOx burners are not as efficient in burning the fuel and our future
14 selective catalytic reduction (SCR) devices will increase the demand on station service,
15 thereby reducing unit efficiency.

16 However, SCE&G will continue to make every reasonable effort to minimize operating
17 problems and operate our units as efficiently as practical.

18 Overall, we are very proud of the results we have achieved during the review period.

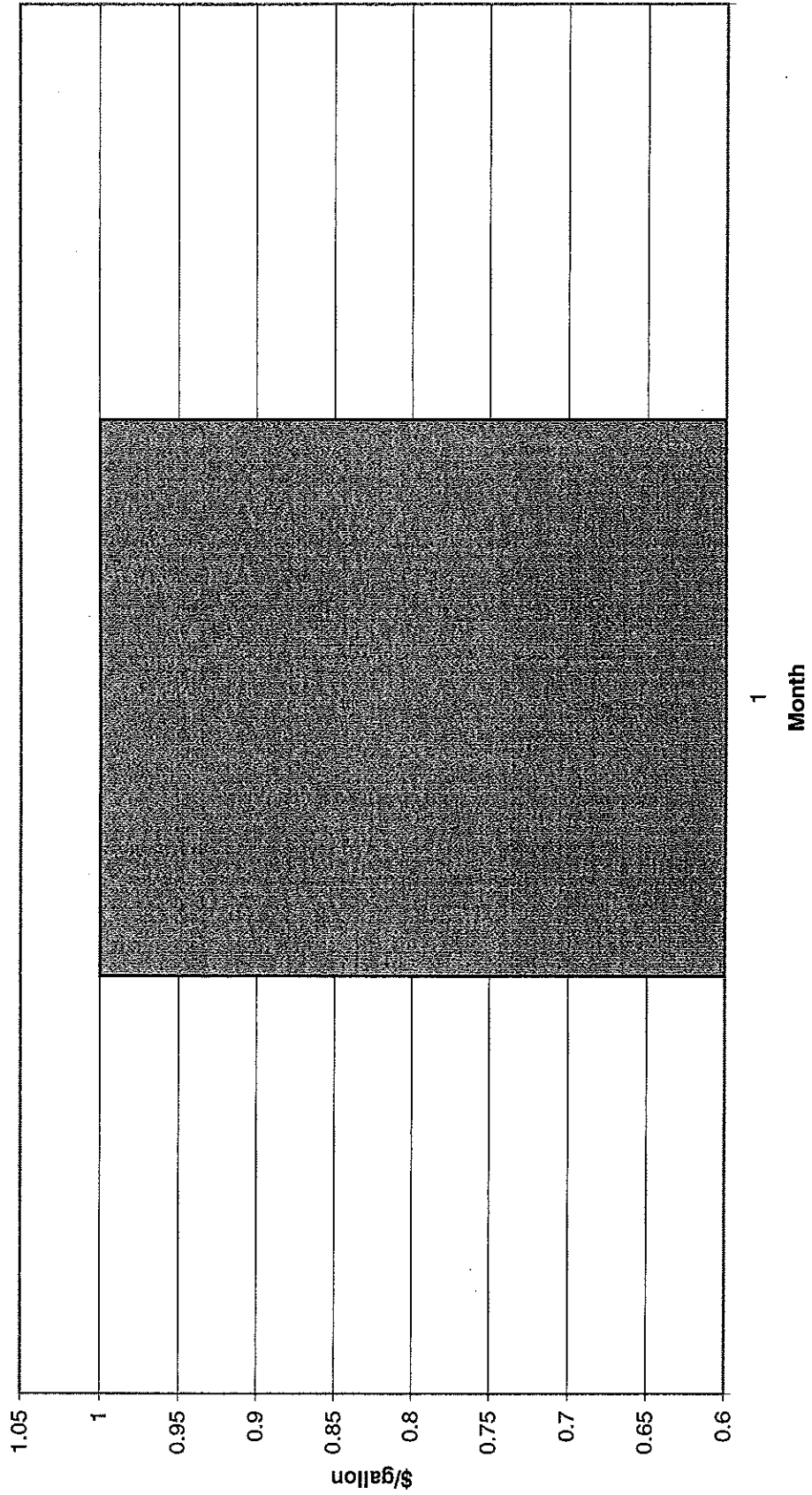
19 Also, we have made every reasonable effort to obtain high quality and reliable suppliers
20 of fuel and transportation at the lowest possible cost to our customers.

21 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

22 A. Yes.

23

**Delivered #2 Fuel Oil Prices
System Average**



South Carolina Electric & Gas

COAL PURCHASED FOR STEAM PLANTS

MARCH 2002 THROUGH FEBRUARY 2003

COST/MBTU (\$)

\$1.80	\$1.6151	\$1.6209	\$1.6134	\$1.6194	\$1.6555	\$1.6461	\$1.6453	\$1.6496	\$1.6487	\$1.6470	\$1.6354	\$1.6432
\$1.60												
\$1.40												
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Exhibit # _____ (JML-1)

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